IRITIS; DIAGNOSIS AND TREATMENT.

BY CHAS. A. OLIVER, M.D.,

OF PHILADELPHIA.

[Read before the Northern Medical Association, April 23d, 1880.]

REPRINTED FROM THE "MEDICAL AND SURGICAL REPORTER," SEPTEMBER 4, 1880.

MR. PRESIDENT AND GENTLEMEN—My reason for bringing the subject in consideration before you this evening is, that I think it among the most important of ocular troubles: not only, that if left unchecked it nearly always terminates in either visual impairment or total blindness; but by correct appreciation of early local changes which are free to inspection, and proper interpretations of symptoms which are almost pathognomonic, we can easily render, by a well directed medical or surgical course, an almost doomed eye perfect, or of great value to its possessor.

The appreciation of these facts has induced me to systematically examine the subject with you, in hopes of arriving at some conclusion in correct diagnosis and proper treatment.

1st. Let me cursorily give you the anatomy. (The lecturer here gave a concise account of the anatomy of the organ.)

Dixon, in his work on "Diseases of the Eye,"* says; "We first meet with the word 'Iritis' in a treatise by Schmidt, of Vienna, published in 1801." This assertion must seem surprising, and we can hardly believe that a disease so prominent in its symptoms should be scarcely recognized or described until such a late date.

At various intervals the medical world has been at war in reference to the divisions of the disease, some classifying the different forms according to seemingly pathognomonic dyscrasiæ, while others assumed distinctions based upon the pathological anatomy of the organ.

For my purpose this evening, I intentionally avoid making numerous distinctions between the various allied forms of the disease, and shall merely consider them under the broad heads of traumatic and idiopathic; their age, of course, necessitating another great division—acute and chronic.

(The lecturer here read two amusing descriptions of the disease, given by two German writers, Rau and Van Ammon, as quoted by Dixon*.)

What are the symptoms of an iritis?

I can best illustrate this by the recital of a few representative cases which have recently come under my immediate notice.

H. S., aged thirty years, wheelwright, noticed, four days previous to my having seen him, a soreness of his left eye, accompanied by dread of light and profuse lachrymation; cephalalgia, more intense in the left periorbital and temporal region, keeping him awake at night. For this group of symptoms he had used some kind of eye water.

Upon inspection of his left eye, I found both conjunctival and ciliary injection; the former slightly encroaching on the corneal limbus; cornea clear; iris mobile, but rather sluggish in radiary contraction. You notice I make use of the term radiary contraction of the iris, in contradistinction to the meaningless one of pupillary dilatation. I cannot conceive of the motion of a void, and I think it would be far better to discard the term, and give the action of the iris its true verbal signification, expressing dilatation of the pupil by radiary contraction of the iris, and contraction of the pupil by circular contraction of the iris. To continue with the case, I found the pupillary border presenting a purplish vascularized appearance, two millimetres in breadth, very marked as compared with the remaining blue color.

Instillation of atropia caused even full radiary contraction, with the exception of a

* "Diseases of the Eye," 1860, p. 137.

* "Diseases of the Eye," 1860, p. 139.

strong posterior adhesion to the nasal side, no other tags or marks being visible. His vision with that eye before the use of the drug was but slightly diminished, being $\frac{20}{xxx}$ as compared with $\frac{20}{xx}$(?) with his right eye, and a limitation of accommodative range of seven to eleven inches, as compared with seven to eighteen inches.

In October of last year, I saw a patient, aged fifty-one years, a seaman, who said that his left eye had become primarily sore about the middle of August, the right eye following one week later. Had had some photophobia. No headaches whatever. Had been under medical treatment, consisting of a collyrium of atropia and the internal use of one twenty-fourth of a grain of corrosive sublimate three times daily, for three weeks. For the past week he had been treating himself by potato poultices, blisters, etc. He stoutly denied any venereal history, although by indirect questioning I succeeded in eliciting the past existence of a skin eruption, alopecia, and nocturnal rheumatism.

In both eyes the conjunctival and anterior ciliary vessels were engorged and visible. The pupillary border of the right iris was heart-shaped, long axis at 75°; and situated upon the upper outer pupillary edge there was a gummy infiltration, as delineated in the crayon sketch I have placed on the board. The pupillary rim of the left iris was horizontal oval, figure-of-eight-shaped. Irides same color and corneæ seemingly clear; vision greatly impaired.

Another patient, whom I saw but a few weeks ago, presented upon the pupillary border of his left iris an irregular gummy infiltration, occupying the entire width of the smaller circle, which was enlarged, reddened and vascularized. The temporal and frontal neuralgia of this patient was so severe as to prevent sleep.

From these three instances you will notice that the principal subjective symptoms are intolerance of light; neuralgia around the affected eye, generally nocturnal, and *dimness of vision*. While the objective symptoms are characterized by lachrymation; sluggish muscular action of the iris, which is dependent either upon adherent bands, thickenings, or neoplastic formations in the iris structure, and change in color, which upon careful examination, is easily discernible; but no dependence can be placed upon the degrees of the symptoms; their intensity being no measure for the gravity of the case. I have here to-night a patient who beautifully illustrates this.

You will now properly ask me some of the principal causes, in order that, having a correct idea of the effects, you may make intelligent search to determine their true character.

Among these may be enumerated six prominent classes, the first five being considered more or less of traumatic origin, while the last must be regarded as purely idiopathic.

1st. Mechanical rupture of the substance of the iris.

I have never personally seen an iris inflamed from a break in its continuity, but Mackenzie* has given cuts of several cases coming under his observation.

2d. The presence and incessant motion of a foreign body in the aqueous humor; as, for instance, a piece of iron in contact with the surface of the iris; swelling of a forming cataract; escape of a portion of the cortical substance of the lens through its capsule; or even true lenticular luxation.

These varieties are not at all rare, it being almost a weekly occurrence, at any of our large dispensaries, to see an iritis so originate.

3d. Hernia of the iris through the corneal wall.

I have distinct recollection of a case of this kind, coming under my observation about eight months ago. E. J. M., aged twenty-nine, a cloth finisher by trade, said that eighteen days previous to my having seen him he had been struck in his right eye with a piece of iron. Had experienced a great deal of periorbital pain and lachrymation, for which he had been using unguentum belladonna and an eye water. Lost sight in about two weeks' time. At his first visit I noticed he had both conjunctival and ciliary injection. The iris was prolapsed through a corneal cut at the lower outer quadrant. Cornea slightly hazed, more especially around the wound. Iris discolored. No reflex from fundus.

4th. Extension of inflammation from some other diseased portion of the eye. A fruitful source being in the improper use of collyria, acting by extension through an irritated cornea.

5th. Excessive and continued accommodative efforts; improper light; sudden variations of temperature.

6th. Dyscrasia.

I think this a good opportunity to point out to you the folly of endeavoring to fully recognize diatheses in idiopathic inflammation of the iris. At present we use the terms syphilitic, rheumatic, etc., to indicate our ideas of cause only, as we know it is almost impossible, by simple inspection, to proclaim a variety of inflammation. All we do know is, that in certain cachexiæ the

*4th edition, pp. 396-7.

workshops of assimilation—the vascular and neuritic systems—have been so modified or poisoned as to throw out bad labor, imperfect cell formation, undergoing premature death; true retrograde metamorphosis, caused by abnormal development. That the iritis of dyscrasia is most certainly a mere local expression of great blood changes cannot be doubted; the nature of which will require a future era to bring its "metres and scopes" into acquisition, to be appreciated by the physical senses; the only difference between the various forms being in the dissimilarity of the cause; the results remaining almost the same.

Stellwag* says "Iritis occurs at any time of life. It often destroys the good results of an operation for cataract in the most advanced old age, and it is also observed in the newly born;" and Himley† even asserts its occurrence in fœtal life.

Early adult life furnishes the greatest number of cases, which, on account of greater exposure, is not difficult to understand.

The course the disease assumes, is extremely variable, sometimes reaching the acme of inflammation in a few days, and as quickly disappearing. This I have designated to you as an acute attack; but I have seen cases presenting exceedingly slight symptoms, for months and months—even entire remissions, with occasional exacerbations. Of course, these constant sources of irritation convert an acute into the chronic type of the disease.

The sequelæ of iritis are exceedingly numerous, their nature in great measure being dependent upon the degree of intensity and duration of the primary inflammation; the most formidable being the presence of adhesions between the anterior capsule of the lens and the posterior surface of the iris, or between the posterior surface of the cornea and the anterior surface of the iris. These tags prevent proper muscular contraction, thus producing constant strain and irritation. They may even surround the entire pupillary border of the iris, leading to the most disastrous results. I shall cite you two instances.

N. S. (colored), aged thirty years, a gardener, gave a history as follows: Fifteen years previously both eyes were inflamed; also at various intervals since. Two weeks before I saw him, his left eye had again become sore, associated with temporal and periorbital pain, mostly nocturnal, for which he had been using poultices of bread and milk.

Upon examination I found in the left eye, marked conjunctival and ciliary injection; cornea diffusely hazed; pupillary space small and ovoid; long axis at 135°, the border caught below and in at the point of a corneal macule. The pupil of the right eye was slit-like, six millimetres in length, angle 105°, the border caught both above and below in maculæ corneæ. Under stimulus of light the slit was widened and narrowed. Vision with this eye was only reduced to one-fourth, while in the left eye there was but one-thirty-third vision.

In April of last year I saw a young man, aged eighteen, who for the past four years had been totally blind in his left eye, the result of a blow from a stick.

The organ afforded a fine example of pupillary occlusion. The iris degenerated, discolored and streaked with blood-bearing vessels visible to the naked eye; iris tissue bulging, leaving a funnel-like pupillary space, and causing a very shallow anterior chamber, at the bottom of which were masses of cholesterin crystals.

Another is permanent atrophy of the iris tissue, rendering it friable and sometimes almost rotten. This is also seen in the tough, tendinous degenerations found in places of previously existing gummata.

If, during the course of the attack, there has been a large hypopyon, it generally leaves a series of cloudy striations covering the two surfaces of the iris and walls of the anterior and posterior chambers.

These latter forms of sequelæ have been well exemplified in the case I have just given you that is, the atrophic iris tissue and the masses contained in the anterior chamber (in this case the possible results of a neglected hypæmia).

I purposely avoid speaking of complicated iritis, that is, irido-cyclitis, irido-choroiditis, etc., as it would lead you into details necessitating accurate knowledge of histological anatomy, besides frequent observance of minute symptoms which are not accessible in a general medical practice.

The treatment I shall divide into that for the acute and chronic types, which will be subdivided into topical and general.

What are the indications in the topical treatment of an acute case?

1st. If the case be caused by the presence of a foreign body, the removal of the cause. Thus, a piece of iron or steel lying in the anterior chamber, scraping and scratching the already irritated

* "Treatise on the Diseases of the Eye," 1868, p. 185.

† "Krankheiten des Auges." Berlin, 1844, p. 100.

iris, should never be allowed to remain, with the vague hope of absorption.

I remember a case occurring in the public practice of a medical gentleman of this city. A laboring man had an iron chipping imbedded in the inferior nasal quadrant of the iris. The cornea and lens were clear; iris slightly thickened and irregularly mobile at the point of foreign body. I was detailed to administer an anæsthetic; but upon the man's positive refusal, the physician endeavored to extract. Owing to the constant motion of the eye, the attempt was unsuccessful and the operation was deferred for a few hours. The man never returned, and I afterward learned that his eye became totally blind.

2d. If the iritis originates from prolapse, an iridectomy should be performed, by snipping off the prolapsed portion.

This case will afford a good instance: J. M., aged six, a schoolboy, applied at the clinic of Wills Eye Hospital. The child gave the following history: Twenty-four hours ago, left eye struck by a stone; wound bled at the time. Much frontal and periorbital neuralgia since. Upon examination it was found that the iris was prolapsed through a cut in the lower outer quadrant of the cornea. Slight corneal haze. Iridectomy embracing the prolapse was immediately performed, and eserine instilled. In a few days the eye became quiet and vision rose from $\frac{1}{5}$ to normal.

3d. To give the iris rest.

This is done by artificial mydriasis, paralyzing the circular muscle of the iris, which would be in constant motion in its endeavor to regulate the size of the pupil. Also lessening and contracting the blood vessels, with consequent diminution of congestion and probability of fibrinous effusion.

4th. To prevent adhesions.

This is also accomplished by mydriatics, which separate the pupillary borders and lift the posterior surface of the iris off the dome of the lens.

5th. To annul neuralgia.

This is partly done by mydriasis; but if the pain be very severe, it is always advisable, in a plethoric subject, to extract blood from the temporal region, preferably by means of Heurteloup's artificial leech.

If the patient be anæmic it may be better to use hypodermic injections of atropia and morphia combined, or dry cupping.

We now come to the general treatment:—

1st. The stoppage of all extraneous conditions tending to aggravate the disease.

The patient must endeavor not to subject himself to extreme variations of heat and light. These two conditions can be guarded against by keeping within doors and the wearing of protective spectacles.

2d. Lowering pyrexia and keeping the emunctories well open.

I have found that the first of these indications can be best fulfilled by well regulated doses of quinine. For the second, calomel exhibited in small doses, say one-sixth of a grain, in combination with ten-grain doses of bicarbonate of soda every few hours, until active purgation ensues.

3d. The special treatment of the diathesis.

Attack the poison, whatever it may be—syphilis, rheumatism, or other debilitating and lowering dyscrasiæ. Rid the general system of its enemy. *Treat the cause*, meanwhile not forgetting the local remedies to which I have just referred. We must remember the old established rule, that it is not only the province of the medical man to gain his knowledge wholly from a single organ, and direct his treatment to the same; but he must study the general condition of his patient, and see if he cannot find a cause for the local change, or even a similar condition affecting another portion of the body—taking care to fully understand the variety of results produced by the same diathesis in the different viscera, and not falsely associate the difference between susceptibility and the character of the impression.

In the use of mercury, and the choice of its preparation, I have but little to say. If we meet a case showing synechia, gummata, hypopyon, effusion into the crypts of the iris, or even thickening of its tissue, it is best to administer some form of the drug. It is thought, by nearly all, that the method by inunction possesses many advantages, which from my limited experience I must heartily endorse.

The treatment of a chronic iritis during the exacerbations resolves itself into that of the acute. During the remission much may be done in the way of tonics and general alteratives. Operative interference, as a rule, is not favorable, although I remember that at the Wills Eye Hospital, during the year 1877, Streatfield's and Passavant's operation for the removal of posterior synechia, were several times performed, with comparatively good results.

Iridectomy for pupillary occlusion is of frequent occurrence, and often leaves the eye in a greatly benefited condition.

If you find an eye with almost worthless vision, tension soft, associated with ciliary tenderness,

and with some ciliary sympathy of the opposite organ, it is always best to immediately enucleate the affected globe.

In order to show you the importance of sufficient knowledge on the part of the general medical man to correctly diagnose and properly treat this affection, I have compared the number of uncomplicated and complicated iritis with the total number of eye patients who have for the past several years applied at the three great special dispensaries of our city. Out of a total number of 31,988 cases, there were 1613 of iritis, and its immediate complications, or about one in twenty, or five per cent. of the total; if, of these, I tell you that many of them have been aggravated in their early stages by the general practitioner, you will not be surprised at my desire to explain what little I am capable of.

I now adjure you to learn to know when to exhibit topical remedies to an eye; not at haphazard instil a collyrium into an inflamed eye, without most thoroughly inquiring the cause of the trouble.

981 *North Fifth Street.*